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(54) Title: USE OF METAL COMPLEX COMPOUNDS AS CATALYSTS FOR OXIDATION USING MOLECULAR OXYGEN OR AIR

### $[L_nMe_mX_p]^{z}Y_q$ (1)

$$\begin{array}{c|c}
R_3 & R_5 & R_6 \\
R_2 & R_1 & R_{10}
\end{array}$$

$$\begin{array}{c|c}
R_6 & R_7 & R_8 \\
R_1 & R_{10} & R_{10}
\end{array}$$
(2)

(57) Abstract: Use, as a catalyst for oxidation reactions using molecular oxygen and/or air, of at least one metal complex compound of formula (1) wherein Me is manganese, titanium, iron, cobalt, nickel or copper, X is a coordinating or bridging radical, n and m are each independently of the other an integer having a value of from 1 to 8, p is an integer having a value of from 0 to 32, z is the charge of the metal complex, Y is a counter-ion, q = z/(charge of Y), and L is a ligand of formula (2) wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$ ,  $R_9$ ,  $R_{10}$  and  $R_{11}$  are each independently of the others hydrogen; unsubstituted or substituted  $C_1$ - $C_{18}$ alkyl or aryl; cyano; halogen; nitro; -COOR<sub>12</sub> or -SO<sub>3</sub>R<sub>12</sub> wherein R<sub>12</sub> is in each case hydrogen, a cation or unsubstituted or substituted C1-C18alkyl or aryl; -SR<sub>13</sub>, -SO<sub>2</sub>R<sub>13</sub> or -OR<sub>13</sub> wherein R<sub>13</sub> is in each case hydrogen or unsubstituted or substituted C<sub>1</sub>-C<sub>18</sub>alkyl

or aryl;  $-NR_{14}R_{15}$ ;  $-(C_1-C_6alkylene)-NR_{14}R_{15}$ ;  $-N^{(+)}R_{14}R_{15}R_{16}$ ;  $-(C_1-C_6alkylene)-N^{(+)}R_{14}R_{15}R_{16}$ ;  $-N(R_{13})-(C_1-C_6alkylene)-NR_{14}R_{15}$ ;  $-N(R_{13})-(C_1-C_6alkylene)-N^{(+)}R_{14}R_{15}R_{16}$ ;  $-N[(C_1-C_6alkylene)-N^{(+)}R_{14}R_{15}R_{16})$ ;  $-N(R_{13})-N-R_{14}R_{15}R_{16}$  or  $-N(R_{13})N^*R_{14}R_{15}R_{16}$ , wherein  $R_{13}$  is as defined above and  $R_{14}$ ,  $R_{15}$  and  $R_{16}$  are each independently of the other(s) hydrogen or unsubstituted or substituted  $C_1-C_{18}$ alkyl or aryl, or  $R_{14}$  and  $R_{15}$ , together with the nitrogen atom linking them, form an unsubstituted or substituted 5-, 6- or 7-membered ring which may contain further hetero atoms.

